Transforming the Resilience of Cognitive, Cyber-physical Systems

Statement of Themes: Symposia dedicated to promising research in resilient systems that will protect critical cyber-physical infrastructures from unexpected and malicious threats--securing our way of life.

Special/Invite Announcement & Call for Papers

Session S/I-05:

Resilience Models and Measures

Session Abstract:

Quantifying cyber security has been a core challenge for the information assurance community for decades and the same difficulties apply to devising metrics for resilience. While resilience mechanisms have started to become available as reusable and configurable building blocks, we lack reliable metrics for measuring the usefulness of deploying resiliency mechanisms especially under varying adversary models. The purpose of this special session is to present new ideas and approaches for quantifying security beyond today's approaches that are based on difficult to measure attributes (such as work load), tightly coupled with assumptions about adversary capabilities (e.g., skill level of a particular red team), and dependent on knowledge about existing exploits (e.g., entries in vulnerability databases).

Topics:

Usable and meaningful security metrics supporting mission-based tradeoffs, model-based multi-layered characterizations of security attributes, empirical approaches for validating security of distributed systems, analysis-based approaches for security

Chairs:

- Dr. Marco Carvalho, Florida Institute of Technology
- Michael Atighetchi, BBN

Contact Information

Resilience Week
Craig Rieger Chair,
Idaho National Laboratory
Jodi Grgich Organizer,
Idaho National Laboratory

Controls Symposium
Frank Ferrese Chair,
Naval Sea Systems Command

Cyber Symposium
Marco Carvalho, Chair,
Florida Institute of Technology

Cognitive Symposium
Roger Lew Chair,
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